

FIG. 1

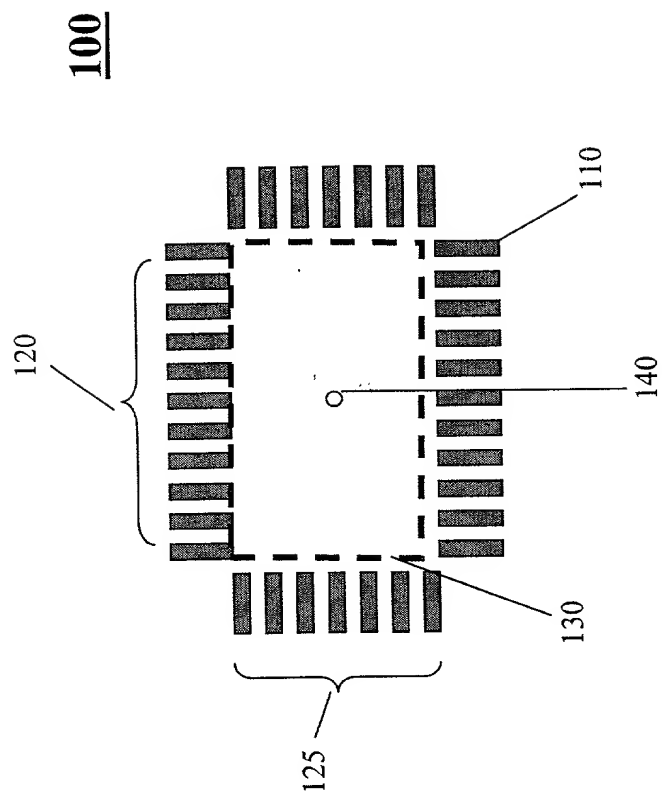


FIG. 1A

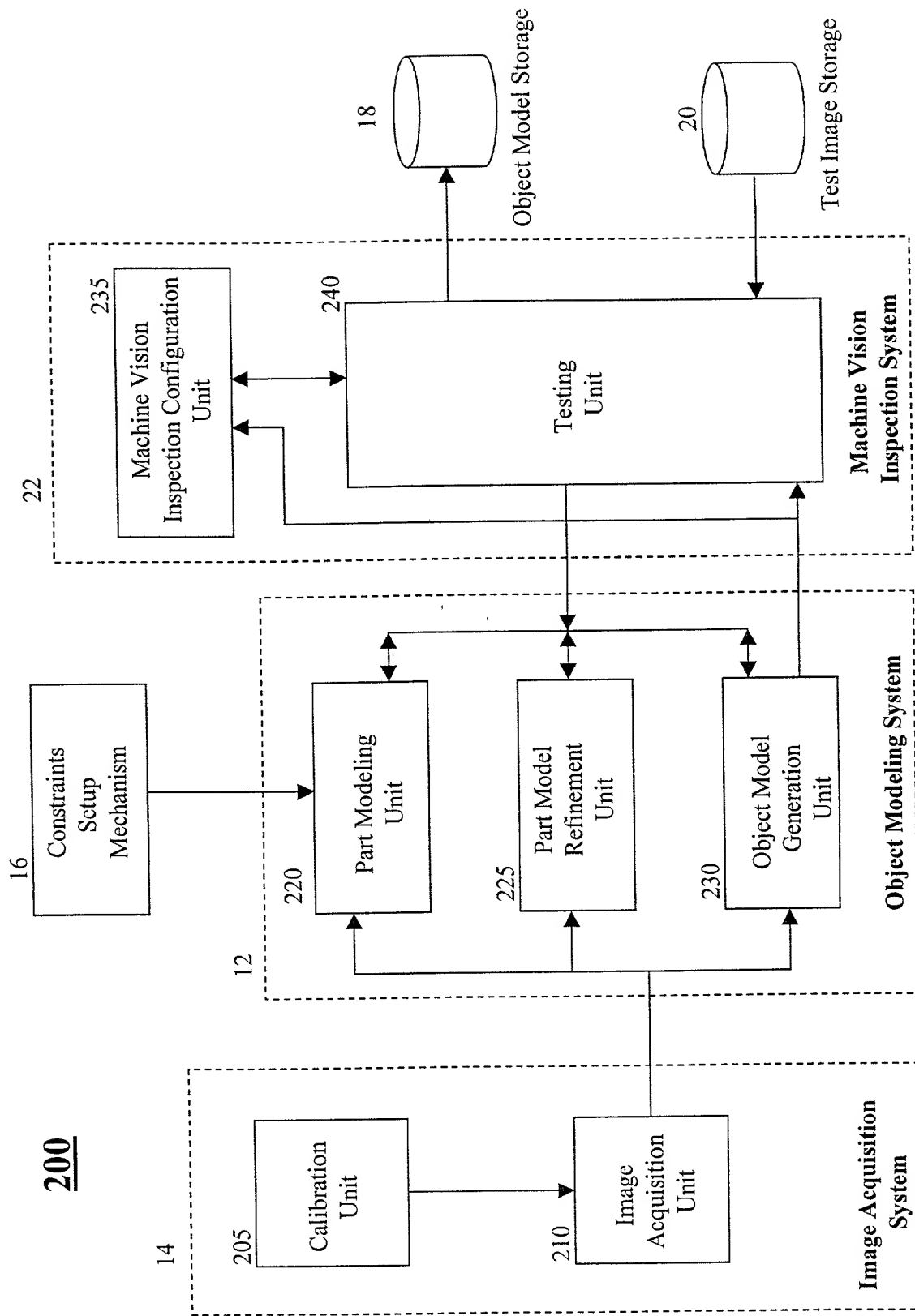


FIG. 2

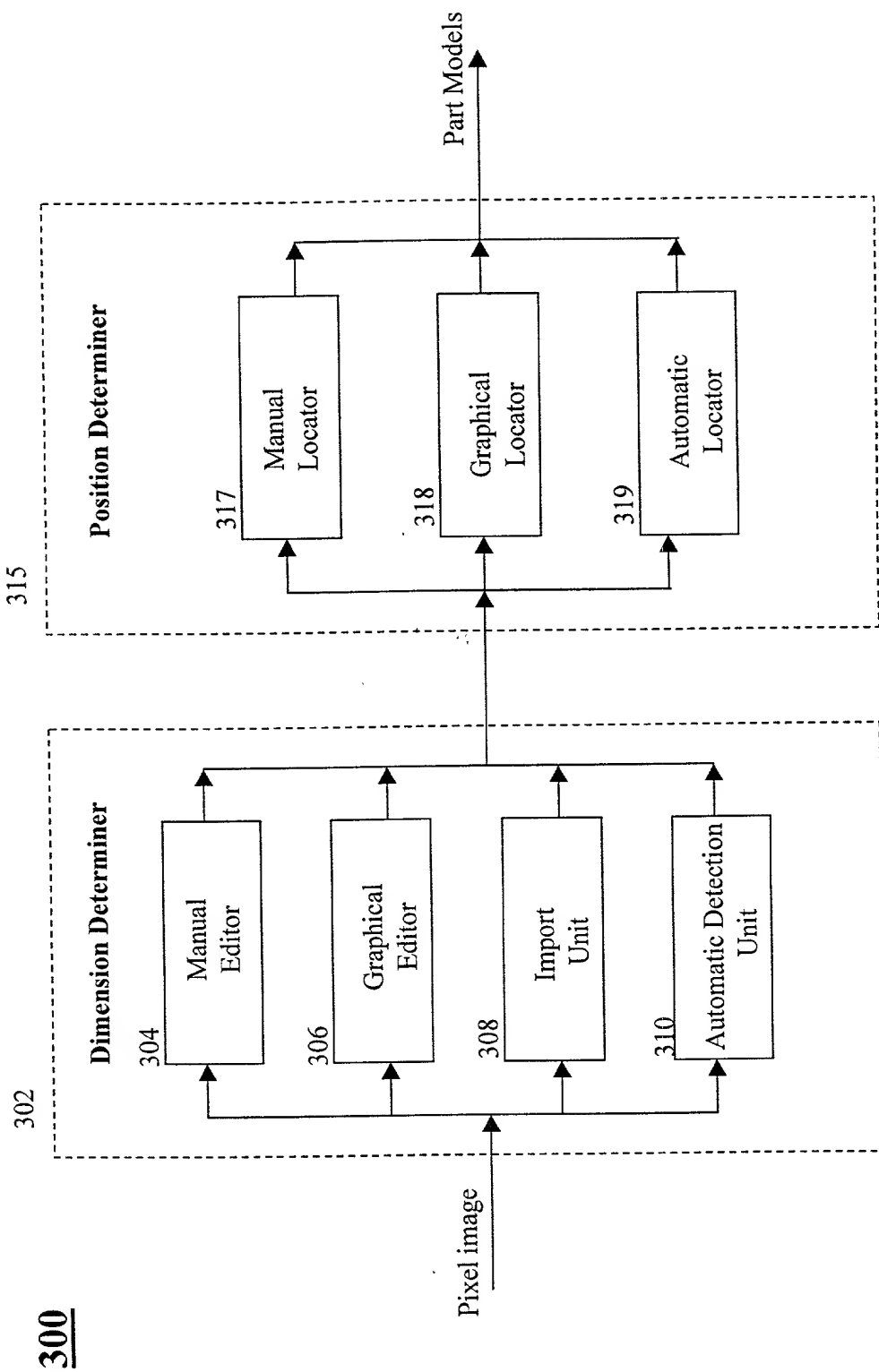


FIG. 3

410

Manual Editor: Acquire Dimension Information

Width of the rectangle:

40cm

412

Height of the rectangle:

4.5cm

414

416

Save

418

Cancel

405

425

Manual Editor: Acquire Position Information

Position of the rectangle:

(210, 335)

426

Angle of the rectangle:

75 degrees

427

428

Save

429

Cancel

420

FIG. 4A

FIG. 4B is a schematic diagram of a graphical editor window 445. The window 445 includes a title bar 450 with a maximize button 455, a minimize button 460, and a close button 462. The window 445 is divided into a main display area 470 and a toolbar 480. The toolbar 480 contains a series of icons 465, including a selection tool 475. The main display area 470 shows a grid of points 480, with a dashed line 470 indicating a path or boundary. The grid of points 480 is composed of a series of small squares, with one square highlighted in black to represent a selected point.

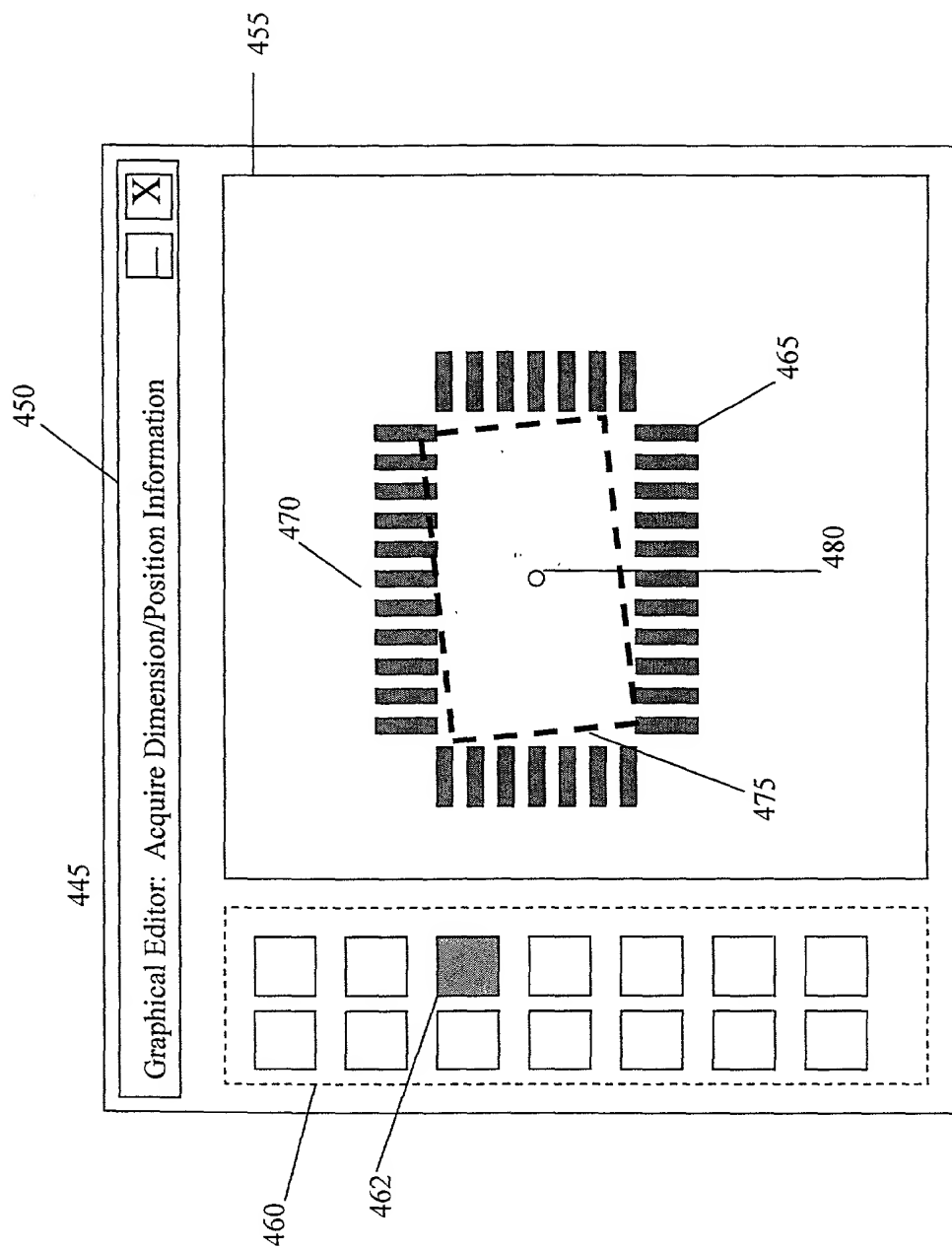


FIG. 4B

225

Part Model Refinement Unit

530

Manual Refiner

540

Graphical Refiner

550

Automatic Refiner

Part Models

Refined part Models

FIG. 5

FIG. 6A is a schematic diagram of a manual editor interface for refining dimension information. The interface is divided into two main sections: a top section for refining dimension information (610) and a bottom section for refining position information (630). The top section (610) contains two input fields: 'Width Adjustment' (612) with a value of '1.5cm' and 'Height Adjustment' (614) with a value of '0.5cm'. The bottom section (630) contains two input fields: 'Position Adjustment' (632) with a value of '(2,4)' and 'Angle Adjustment' (634) with a value of '3.0 degrees'. Both sections have 'Save' (617, 637) and 'Cancel' (618, 638) buttons. The entire interface is labeled 600.

610

Manual Editor: Refine Dimension Information

Width Adjustment :

1.5cm

612

Height Adjustment:

0.5cm

614

Save

Cancel

617

618

630

Manual Editor: Refine Position Information

Position Adjustment:

(2,4)

632

Angle Adjustment:

3.0 degrees

634

Save

Cancel

637

638

605

620

FIG. 6A

600

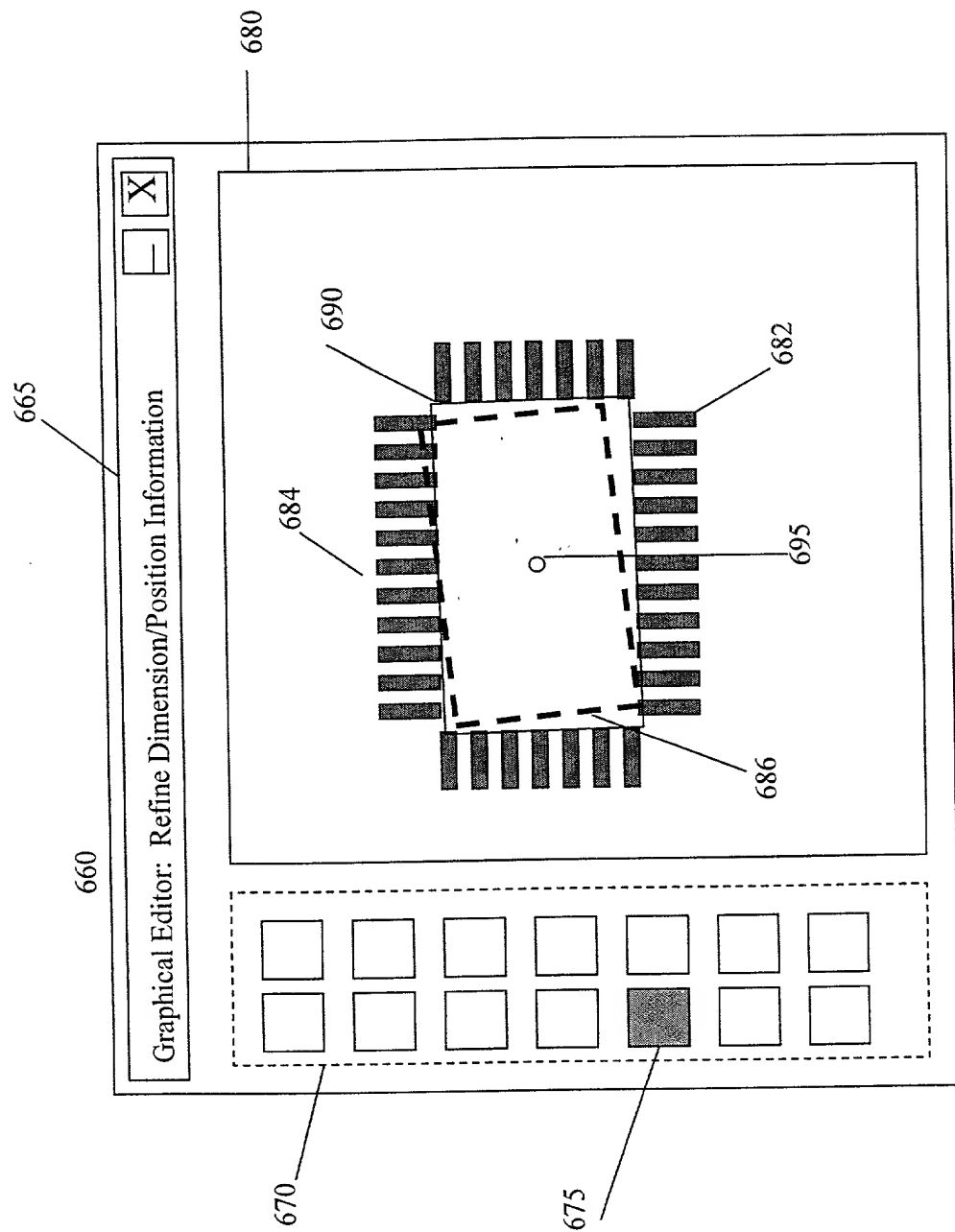


FIG. 6B

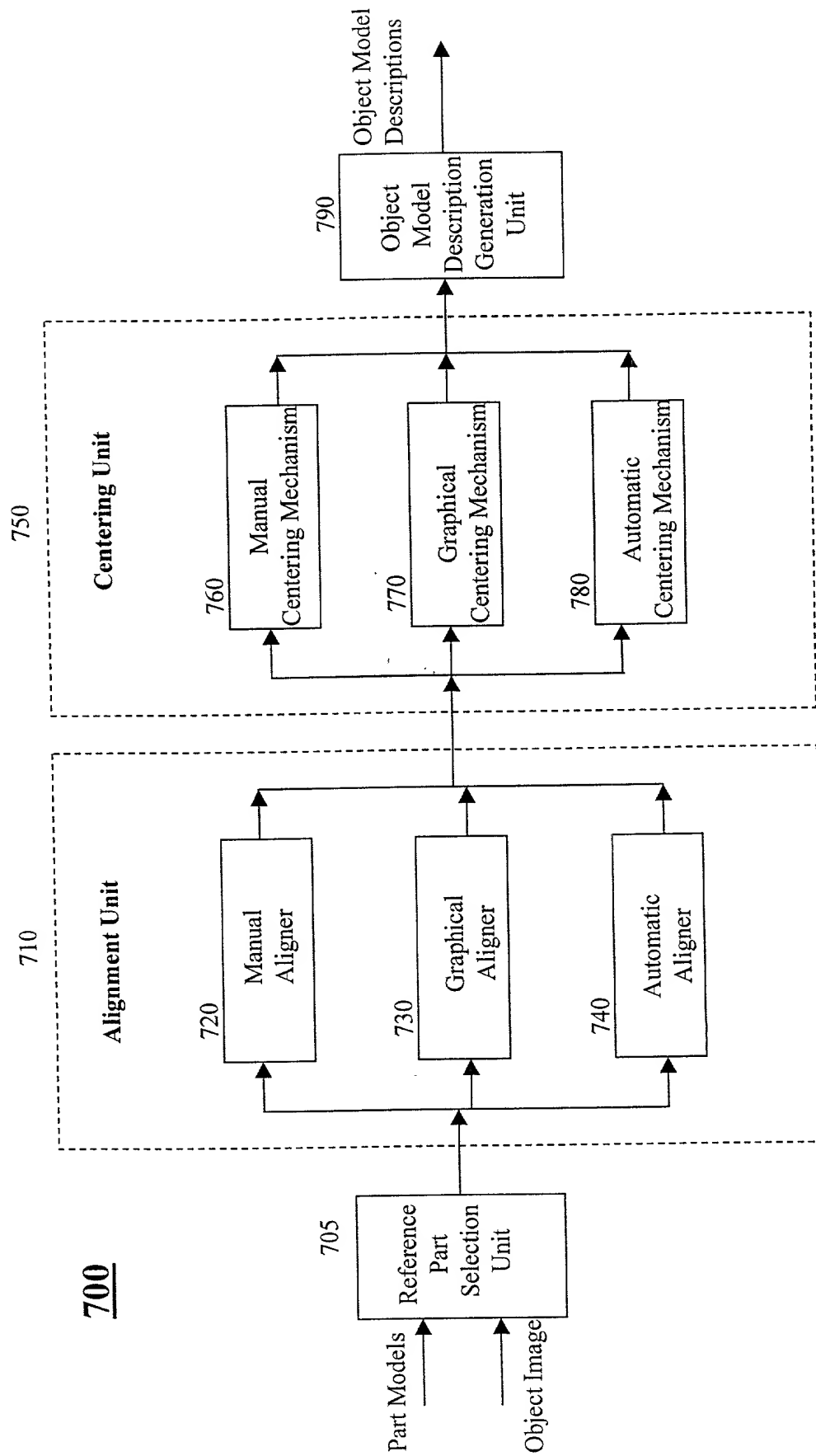


FIG. 7

800

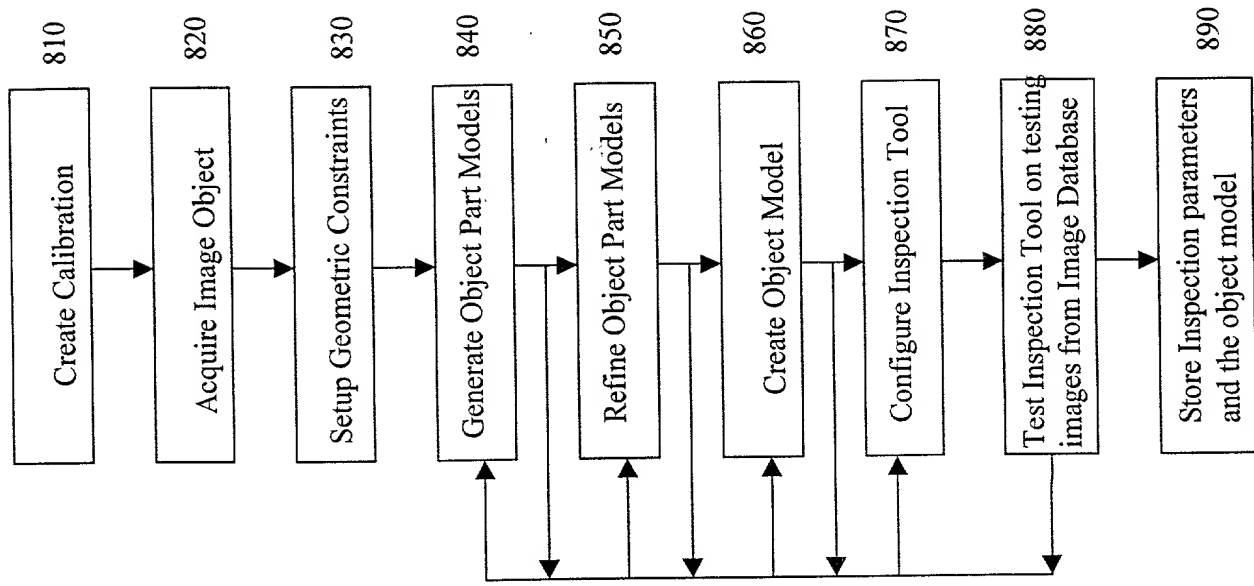


FIG. 8

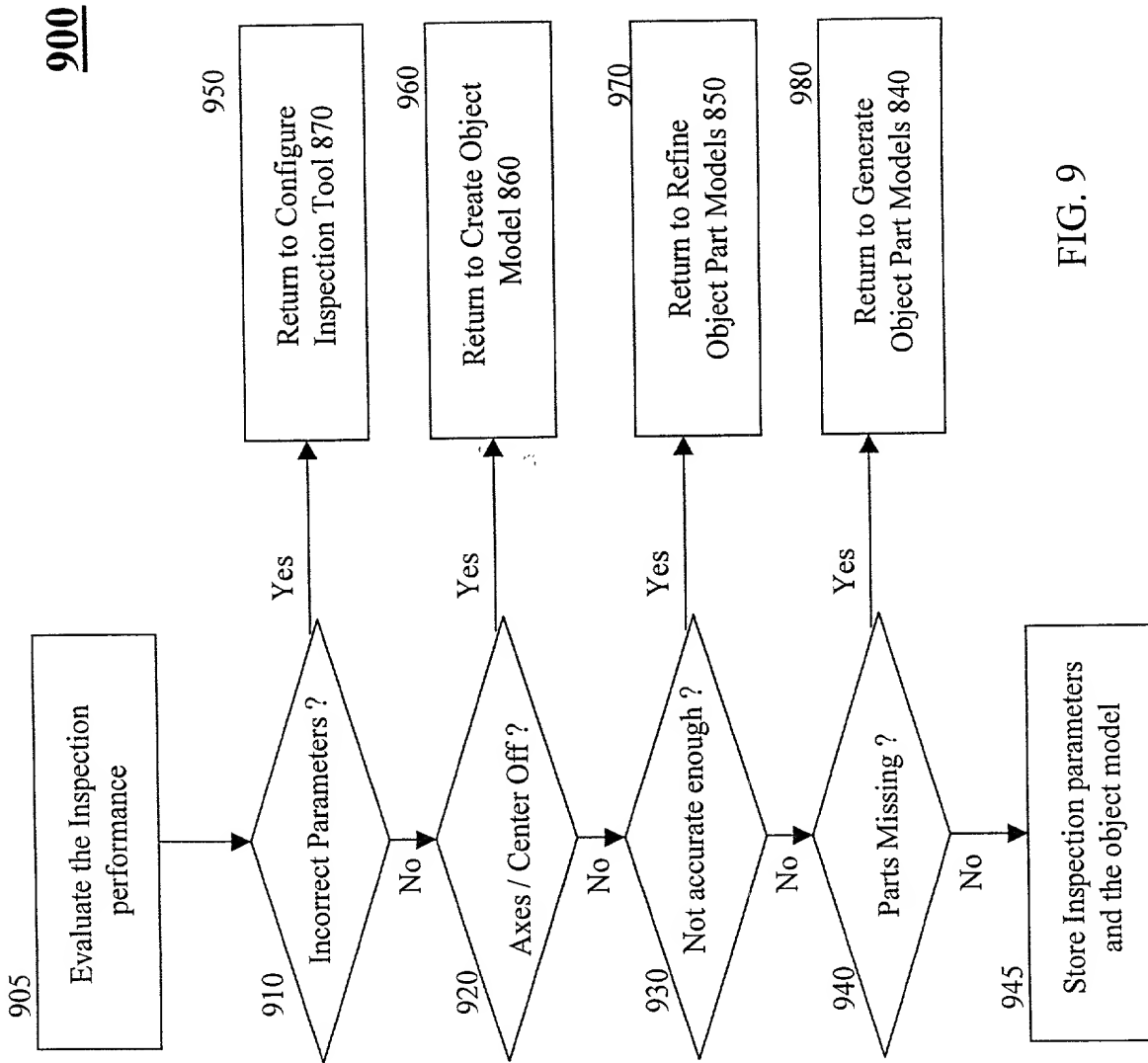


FIG. 9

1000

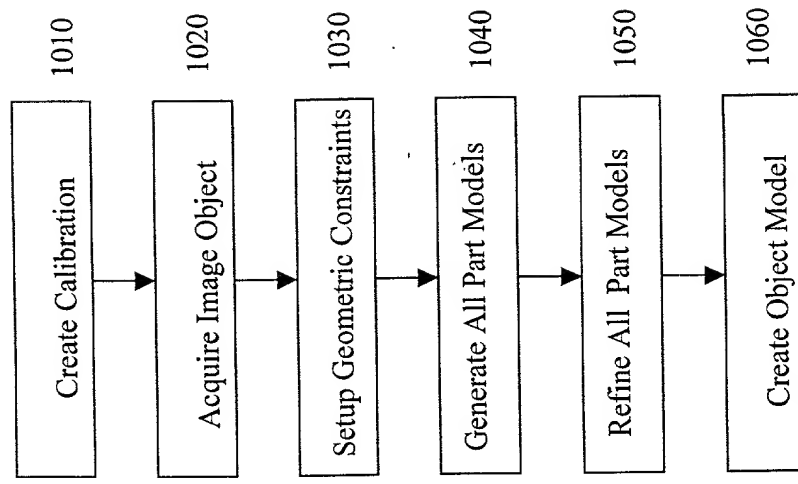


FIG. 10

1100

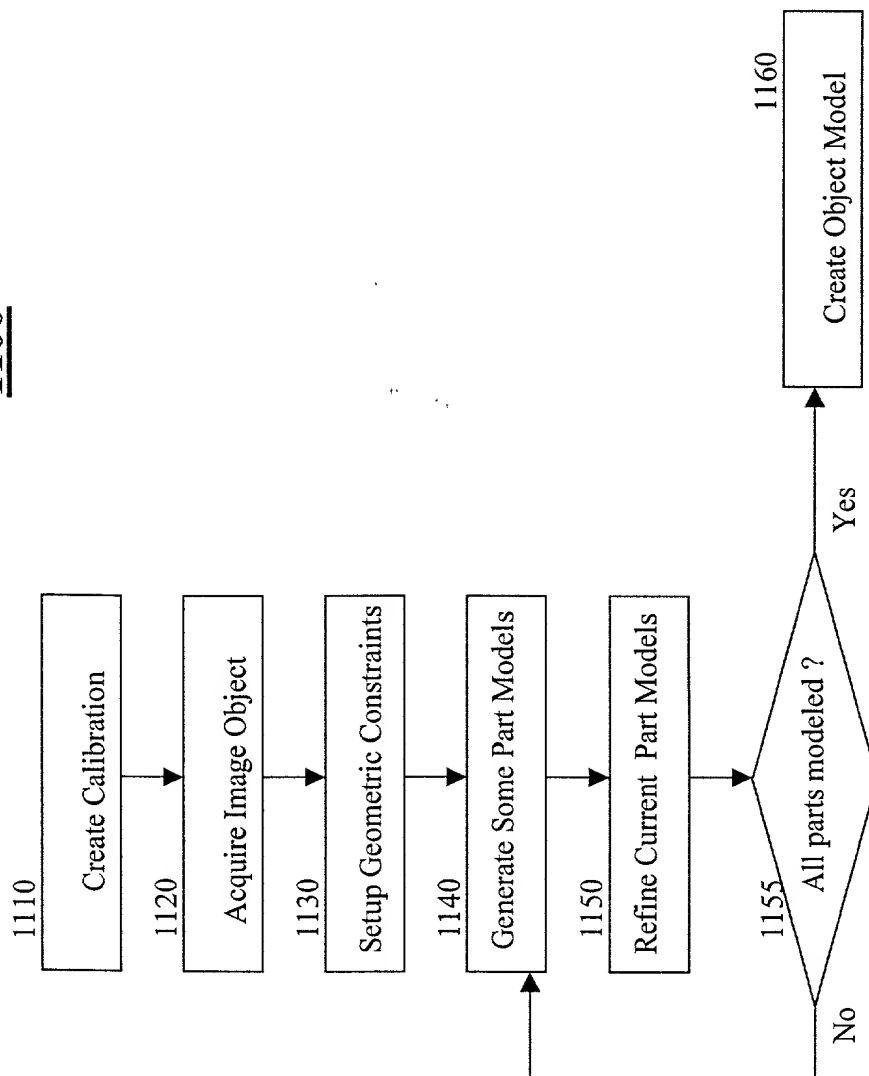


FIG. 11

1200

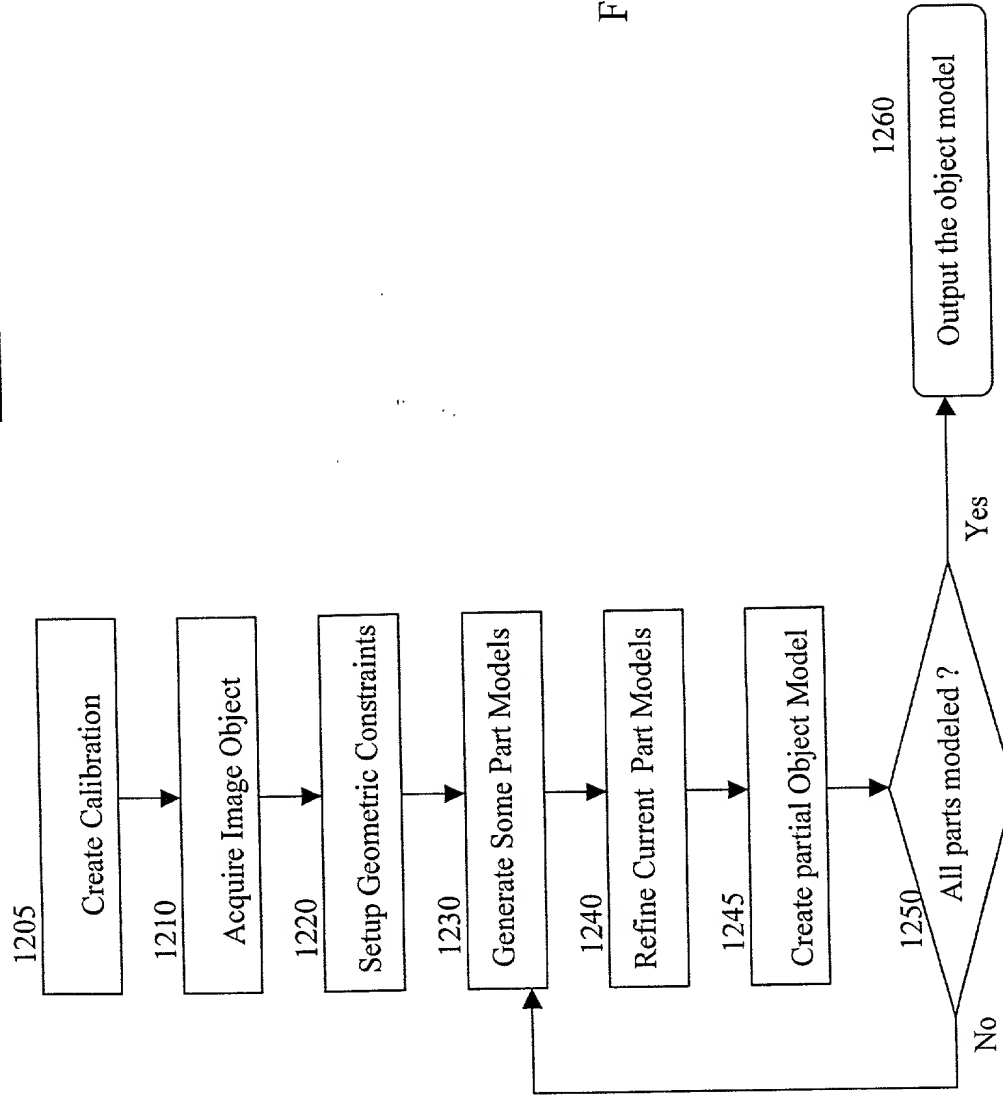


FIG. 12